RANCHO SANTA ANA BOTANIC GARDEN
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CEANOTHUS SPINOSUS

RED-HEART

RANCHO SANTA ANA BOTANIC GARDEN
of the
NATIVE PLANTS OF CALIFORNIA
Santa Ana Cañon, Orange County, California
Established 1927 in Memory of
JOHN W. BIXBY

CEANOTHUS SPINOSUS
RED-HEART

Rhamnaceae Buckthorn Family

A large, evergreen, nearly glabrous shrub, 10-25 ft. high, of equal spread. Trunk short, giving rise to several branches often over 6 in. in diam. Near ground bark brown and rough, but higher smooth and light green. Branches stiff; branchlets leafy, becoming leafless in terminal portions second season and simulating spines. Leaves alternate; petioles less than $\frac{1}{4}$ in. long; blades glossy, bright green above, lighter beneath, margins entire or with conspicuous teeth (well-toothed on stump-sprouts), mostly under $1\frac{1}{2}$ in. long, by $\frac{1}{2}$-$\frac{3}{4}$ in. wide, oblong to elliptic. Flowers borne in profusion, in simple or compound panicles up to 6 in. long, arising on new wood from mixed, scaly buds, well-formed previous season. Pedicels, sepals and petals colored alike, from almost white to medium blue, unopened flowers usually several shades darker; pedicels $\frac{1}{4}$ in. long; unopened flowers $\frac{1}{8}$ in. across; calyx 5-parted, lower half adnate to ovary; sepals separate slightly as flower opens, allowing the 5, clawed petals and stamens to protrude; filaments 1/16 in. long, similar in color to calyx; anthers yellow, 2-celled; ovary 3-celled, set on a fleshy disc; style 1/16 in. long, 3-cleft. Fruit a 3-celled, strongly 3-lobed, dry, dehiscent, subglobose, black or tan capsule, 3/16 in. across, containing 3, smooth, rounded, brownish seeds. In germination the cotyledons appear above ground, are short-petioled, have an oval blade nearly $\frac{1}{4}$ in. long; first few leaves opposite, coarsely-toothed. It is not until seedlings are several months old that entire leaves are produced. A long taproot is soon developed. Flowers March; seeds ripen in July.

The genus *Ceanothus* (from an ancient Greek word for some spiny plant) consists of about 55 species of North America, of which about 44 are found in California, while the remainder range from Canada to Guatemala.

Ceanothus spinosus (Latin for spiny) was described in 1838 by Thos. Nuttall (English-American botanist, 1786-1859) who collected it in the "mountains of Santa Barbara" in 1836. It has no valid varieties or synonyms, although at one time *C. Palmeri* was linked to it as a variety. This lack of nomenclatorial segregation or confusion lends weight to the conclusion that it is one of the most distinctive species of the genus.

Distribution of *C. spinosus* is in the coastal foothills and mountains from San Luis Obispo Co. to the Santa Monica Mts., Los Angeles Co. It re-appears on the west slopes of the Santa Ana Mts., Orange Co., and has been discovered in San Diego Co., and in northern Baja California. It is largely confined to coarse, rocky soils or well-drained areas and to situations in partial shade. Large and outstanding individuals grow in the rich, deep, well-drained soil of narrow canyon bottoms. Although locally abundant, it is hardly to be classed as one of the important

plants of the chaparral association with which it grows. Many other species of *Ceanothus* are not only much more widely distributed, but are also much more abundant from the standpoint of individuals. Fires seldom kill this species; stump-sprouts appear promptly and a new and vigorous top, often several feet in height, is produced in a single season.

Propagation of *C. spinosus* offers less difficulties than many other species. Seeds should be treated by pouring hot water (160-180° F.) over them and allowing them to soak for 12-24 hours. A mixture of sand, loam and finely screened peat moss is ideal for the seed flat; finely screened peat moss sifted over the seeds helps to avoid damping-off. Seeds planted in September usually germinate in October; the seedlings are ready to pot off before January, and are rather large by June, but planting out at that time has several drawbacks, the most serious being that the plants are not well established, must be watered frequently and many die. Holding these large plants in the nursery until fall is difficult as they are likely to become root-bound. Seeds planted in February or March produce plants that can be carried in the nursery in gallon cans during the summer and are of ideal size to plant out in the fall. They establish a good root system during the winter and spring, and can frequently go through the first summer without irrigation, or at most with only an occasional watering.

C. spinosus should be planted in coastal districts of California, not in the interior sections, where other species are better. On the immediate seacoast it can be in full sun, but in other areas it does better in partial shade. The ideal site is a northerly slope or a spot protected from the hot sun for at least several hours each day. Good drainage is essential, and although many plants have persisted for years in heavy soils, they are not really suited to such conditions and are likely to die suddenly from root diseases.

Almost every species of *Ceanothus* native to California has been cultivated and some have been somewhat popular. However, there is probably no species which can be called a truly first-class shrub for the average California garden. *C. spinosus* is no exception, yet it has been used in California gardens for about 50 years and so must have some merits. In our experience, where this species has been properly located, it has proven to be one of the best tall-growing species of the genus. It is too large for the average garden, but on banks or slopes where space is unlimited it can be very effective. Its pale blue to almost white flowers are borne in great profusion in March and literally cover the bushes. During the rest of the year the plants are attractive because of their bright green herbage. However, even under ideal conditions, vigorous growth usually ceases after 8 or 10 years and few flowers are produced. The plants should then be cut to the ground for rejuvenation, or replaced.

The common name Red-Heart refers to the color of the wood of the root-crown. Green-Bark Ceanothus is a coined name and may possibly be more acceptable in horticulture.

CARL B. WOLF

RANCHO SANTA ANA BOTANIC GARDEN

Dedication of Garden Foundation to the Board of Trustees for the Rancho Santa Ana Botanic Garden of the Native Plants of California:

"THE NATURE, OBJECT AND PURPOSE OF THE INSTITUTION HEREBY FOUNDED AND TO BE MAINTAINED HEREUNDER.

ITS NATURE: A botanic garden of the native plants of California, herbarium and botanical library, containing living and/or preserved specimens of trees, plants and flowers native to California, and literature relating thereto.

ITS OBJECT: The preservation and improvement of the property now transferred and such property as may hereafter be transferred to the Trustees for those who not only wish to enjoy, but to study, assembled in one accessible locality, native California plants; and for the advancement of science and education with reference to plant life indigenous to the State of California.

ITS PURPOSES: (a) An institution founded primarily for scientific research in the field of local botany.

(b) To preserve the native California flora, try to replenish the depleted supply of some of the rarest plants which are rapidly being exterminated, and bring together in a comparatively small area as complete a collection of the rich store of native California plants as can be grown in this southern section of the state, thereby promoting the general welfare of the people of the state by providing the means for encouraging and carrying on the above mentioned activities in said state and by doing such other things as may be necessary and desirable to carry out the objects hereof."

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